



národní
úložiště
šedé
literatury

The “Monkey Business” with Heterogeneous Photocatalysts

Klusoň, Petr
2014

Dostupný z <http://www.nusl.cz/ntk/nusl-175010>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 28.09.2024

Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní nusl.cz .

The “monkey business” with heterogeneous photocatalysts

P. Kluson^{1,2}, M. Morozova¹, P. Krystynik¹, S. Hejda², J. Krysa³

¹Institute of Chemical Process Fundamentals, Academy of Sciences of the Czech Republic, Rozvojova 135, 165 02 Prague 6, Czech Republic, tel. +420220390340, e-mail:

kluson@icpf.cas.cz

²Faculty of Environment, J. E. Purkyne University, Kralova Vysina 3132, 400 96 Usti nad Labem, Czech Republic

³Institute of Chemical Technology, Technicka 5, 165 02 Prague 6, Czech Republic

Numerous titania-based photocatalysts have been described in recent years and their photocatalytic activities have been examined with attempts to generalize achieved results. However, it could be misleading to use such kinetic data for drawing general conclusions. It is often claimed that to achieve an extraordinary photocatalytic material many structural parameters such as particle size, crystal phase, surface morphology, specific surface area, nanostructure order, may contribute. This is wrong - there are only random correlations.

In this study main misconceptions in the treatment of the heterogeneous photocatalytic data are summarized first. Then an illustrative case-study is reported. Finally the concept of dynamic active site is introduced as appropriate way to quantify correctly the essential parameter of the photocatalytic activity in the heterogeneous photocatalytic reaction.

Acknowledgement

Authors gratefully acknowledge the financial contribution of the Technology Agency of the Czech Republic, Project No. TA03010548.